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| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/556,491 | MOORE ET AL. | |
| | Examiner | Art Unit | |
| | David B. Thomas | 3723 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment and arguments filed August 23, 2004.
2. ☒ The allowed claim(s) is/are 36-38,40-42 and 53-65.
3. ☒ The drawings filed on 21 April 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.


5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 8/23/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


 David B. Thomas
 Patent Examiner
 Art Unit 3723

NOTICE OF ALLOWANCE

Response to Arguments

1. Applicant's arguments, see the Remarks, pages 8-15, filed August 23, 2004, with respect to claims 36-38, 40-42, and 53-65 have been fully considered and are persuasive. The rejection of the claims has been withdrawn.

Allowable Subject Matter

2. Claims 36-38, 40-42, and 53-65 are allowed.

3. The following is an examiner's statement of reasons for allowance: The present invention relates to processors, sensors, semiconductor processing systems, semiconductor workpiece processing methods, and turbidity monitoring methods. The method, as claimed in claim 36, comprises: providing a semiconductor process chamber; supplying slurry to the semiconductor process chamber; monitoring the turbidity of the slurry during the supplying using a sensor, wherein the monitoring comprises: emitting electromagnetic energy towards the slurry; and receiving at least some of the electromagnetic energy. The method, as claimed in claim 53, comprises: providing a semiconductor processor having a process chamber configured to receive a semiconductor workpiece; supplying slurry to the process chamber using a connection; emitting electromagnetic energy towards the connection using a sensor; receiving at least some of the electromagnetic energy using the sensor; and generating a signal indicative of turbidity of the slurry responsive to the receiving. The method, as claimed in claim 58, comprises: providing a semiconductor processor having a process chamber configured to receive a semiconductor workpiece; supplying slurry to the

process chamber using a connection; emitting infrared electromagnetic energy using a source; splitting the infrared electromagnetic energy to direct some of the infrared electromagnetic energy towards the connection; first receiving at least some of the infrared electromagnetic energy passing through the connection using a first receiver; generating a feedback signal using the first receiver responsive to the first receiving; adjusting the emitting via the source responsive to the feedback signal to provide a substantially constant amount of electromagnetic energy to the first receiver; second receiving at least some of the infrared electromagnetic energy not passing through the connection using a second receiver; and generating a signal indicative of turbidity of the slurry using the second receiver responsive to the second receiving. The method, as claimed in claim 61, comprises: providing a semiconductor process chamber; supplying slurry to the semiconductor process chamber; monitoring the turbidity of the slurry during the supplying using a sensor; and insulating the slurry from the sensor. The method, as claimed in claim 62, comprises: providing a semiconductor process chamber; supplying slurry to the semiconductor process chamber using a supply connection; monitoring the turbidity of the slurry within the supply connection during the supplying, wherein the monitoring comprises monitoring using a sensor; and wherein the supply connection is configured to supply the slurry in at least a partially horizontal direction and the sensor is configured to monitor the slurry while being supplied in the at least partially horizontal direction. The method, as claimed in claim 64, comprises: providing a semiconductor process chamber; supplying slurry to the semiconductor process chamber; and monitoring the turbidity of the slurry during the supplying using a

sensor; and wherein the supplying comprises directly supplying the slurry to the semiconductor process chamber with no modification of a physical property of the slurry after the monitoring. The applicants argue on page 8, that prima facie obviousness has not been properly established; therefore, the obviousness rejection of claims 36-38, 40-42, and 53-65 is improper, as there is no motivation to combine the teachings of Adams et al. in view of Guiffre et al. Therefore, as argued by the applicants, it is the examiner's opinion that the art of record considered as a whole, alone or in combination, neither anticipates nor renders obvious the method of monitoring slurry turbidity together in combination with the rest of the limitations in the independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Thomas whose telephone number is (703) 308-4250. The examiner can normally be reached on 7-4 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David B. Thomas
Patent Examiner
Art Unit 3723

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